CLAIMS

What we claim as our invention is:

1. In a communications system, an apparatus to form a group of communication devices over a distributed network, said apparatus comprising:

a first node to establish a first channel with a first communication device;

at least one second node to establish at least one second channel with at least one second communication device; and

a controller electrically connected to said first node and said at least one second node, said controller further comprising a database module, wherein said database module comprises identification information of each of said communication devices of said group, wherein said controller is dynamically configurable such that any single communication device of said group is capable of sending packet data through its respective channel to the other communication devices of said group.

2. The apparatus of Claim 1, wherein said packet data contains time-sensitive information.

3. The apparatus of Claim 1, wherein at least one of said communication devices is a wireless communication device.

4. The apparatus of Claim 1, wherein the controller further comprises a core module and a net module, wherein said core module establishes identification of each of said communications devices and redirects information from said communication devices to said net module, wherein said net module operates and manages information transmitted between said group of communication devices.

5. The apparatus of Claim 4, wherein said database module is a part of said core module.

6.   The apparatus of Claim 4, wherein said core module further comprises a billing

2   log module, wherein said billing log module maintains a history of activity between said

    communication devices.

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7.   The apparatus of Claim 6, wherein said net module further comprises a local log

2   module, wherein said local log module maintains a history of activity between said

    communication devices, and transfers said history to said billing log module.

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8.   The apparatus of Claim 4, wherein said core module and said net module are

2   connected to the distributed network.

9.   The apparatus of Claim 1, wherein the controller further comprises a top level

2   server, wherein said top level server sends and receives packet data from said

    communications devices.

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10.   The apparatus of Claim 9, wherein said packet data comprises at least one of

2   identification data of said communication device, location data of said communication

    device, and control data to establish, modify, or terminate group communications.

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11.   The apparatus of Claim 1, wherein said first channel further comprises a signal

2   initiation protocol (SIP) channel, a media signaling channel, and a media traffic channel.

12.   The apparatus of Claim 1, wherein said controller further comprises a first timer,

2   wherein said first timer measures a first elapsed time period in which any of said

    communication devices has not transmitted information to said controller, wherein said

4   controller sends a message to said communications devices to enter an dormant mode if

    said elapsed time exceeds a predetermined time period.

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13.   The apparatus of Claim 12, wherein said controller further comprises a second

2   timer, wherein said second timer measures a second elapsed time period, wherein if any

    of said communication devices has not transmitted information to said controller within a

4   predetermined time period, said controller sends a message to said communications
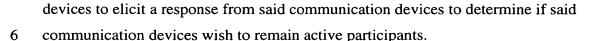
devices to elicit a response from said communication devices to determine if said

6   communication devices wish to remain active participants.

14.   The apparatus of Claim 1, wherein said controller further comprises an arbitrator,

2   wherein said arbitrator assigns a priority level to each of said communications devices,

wherein said priority level determines a hierarchy of transmission privilege of said

4   communications devices such that communication devices having a higher priority level

may interrupt the transmission of communication devices having a lower priority level.

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15.   The apparatus of Claim 13 wherein said assignment of priority level is

2   dynamically configurable.

16.   The apparatus of Claim 1, wherein the controller further comprises a buffer

2   memory, wherein the buffer memory stores said packet data until said communication

device is ready to receive said packet data.

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17.   The apparatus of Claim 16, wherein said buffer memory is used to minimize

2   perceived latency of a user.

18.   The apparatus of Claim 1, wherein some of said communication devices operate

2   in different communication infrastructures.

19.   The apparatus of Claim 1, wherein the controller updates the identification

2   information of said communication device when the identification information of said

communication device has or is about to change.

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20.   The apparatus of Claim 1, wherein the controller sends information to said first

2   communication device regarding said at least one second communication device.

21.   The apparatus of Claim 1, wherein said first communication device is identified

2   by a first identifier, and said at least one second communication device is identified by at

least a one second identifier, and wherein said controller maintains said identifier of each

4   of said communication devices and allows for transfer of packet data between said first

communication device and said at least one second communication device.

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22.   The apparatus of Claim 1, wherein said communication devices operate over a

2   secure mode.

23.   In a communications system, an apparatus to form a group of wireless push-to-

2   talk communication devices over a distributed network, said apparatus comprising:

        a first node to establish a first channel with a first wireless push-to-talk

4   communication device;

        at least one second node to establish at least one second channel with at least one

6   second wireless push-to-talk communication device; and

        a controller electrically connected to said first node and said at least one second

8   node, said controller further comprising a database module, wherein said database

        module comprising identification information of each of said wireless communication

10   devices of said group, wherein said controller is dynamically configurable such that any

        single wireless push-to-talk communication device of said group is capable of sending

12   packet data through its respective channel to the other wireless push-to-talk

        communication devices of said group.